

Remarks/Arguments

The rejection of Applicants' claims 1-20 under 35 U.S.C. 102(b) as anticipated by the article "A Novel Concept" by Bauer is respectfully traversed and reconsideration is respectfully requested.

The Examiner has considered Bauer to disclose a process/apparatus for a power plant comprising a gas turbine cycle using a precooling heat exchanger for cooling an air stream. The Examiner has considered that Bauer clearly discloses on page 60 (FIG 1) that different gas conditions can be used for the liquefaction. It is respectfully submitted that the cooling shown in Bauer, particularly in FIG 1 and in the chart directly above FIG 1, is directed to the cooling of the natural gas. The processes discussed, as shown in FIG 1, FIG 5, FIG 6 and FIG 7, all include the pre-cooling cycle for the gas. It is respectfully submitted that the language, "Higher efficiencies can be achieved by designs with a dedicated precooking cycle upstream of a mixed refrigerant cycle used for liquefaction and subcooling. Propane precooling is used by APCI⁴, another mixed refrigerant cycle for precooling is used e.g. by Shell." This refers to the discussion immediately preceding it which refers to the efficiencies produced by cascade systems and by mixed refrigerant systems. This language, when considered in conjunction with the preceding language, clearly refers to the use of a precooling cycle for the natural gas and does nothing to show that any precooling of the air charged to the turbines is used.

Bauer was reviewed in its entirety and no reference was found to any suggestion that any modification should be made to the temperature of the air charged to the turbines. Accordingly, it is respectfully submitted that Bauer does not show or suggest Applicants' claims 1-20 and it is respectfully requested that all rejections of Applicants' claims under Bauer under 35 U.S.C. 102(b) be withdrawn.

The rejection of Applicants' claims 1-20 under 35 U.S.C. 103(a) as unpatentable over U.S. Patent 6,324,867B1 issued December 4, 2001 to Robert A. Fanning, et al, in view of Bauer is respectfully traversed and reconsideration is respectfully requested.

Fanning discloses a process which utilizes a cooling system for the inlet air to the turbines. This process, however, uses a coolant recovered from the refrigerant section and uses refrigerant (coolant) which could otherwise be used to liquefy additional natural gas. Such

processes have been known to those skilled in the art. By contrast, Applicants' claimed process utilizes a stand-alone cooler which does not take refrigerant values from the natural gas liquefaction process. Further, Applicants' stand-alone heater is designed to provide cooled air at a selected cooled temperature into one or a plurality of turbines used in the system. Fanning, et al clearly uses a separate cooler for each turbine which is less efficient than using a common cooler for all turbines. These two significant disadvantages of the Fanning, et al process are overcome by Applicants' claimed invention wherein a stand-alone cooler is used to provide cooled air to one or a plurality of compressors.

As previously discussed, Bauer is not considered to show anything with respect to the use of cooling the air charged to the turbines.

As discussed above, Fanning, et al discloses a process which in no way suggests the improved process used by Applicants wherein a stand-alone cooler is used to avoid using refrigerant values from the LNG process and wherein a common cooler is used for a plurality of turbines. These two improvements in efficiency are significant and have not been shown or suggested by anything in Fanning, et al.

The Examiner's comments with respect to U.S. Patents 5,457,951 issued October 17, 1995 to Paul C. Johnson, et al (Johnson, et al) , U.S. Patent 4,199,961 issued April 29, 1980 to Larry D. Carter, et al (Carter, et al), U.S. Patent 6,050,083 issued April 18, 2000 to Milton Meckler (Meckler'083), and U.S. Patent 6,651,443B1 issued November 25, 2003 to Milton Meckler (Meckler '443) have been noted. Only the first of these references, Johnson, et al, is directed to a liquefied natural gas process. This reference is considered to disclose a process similar to that in Fanning, et al and requires the use of inlet air cooling using cooled refrigerant from other portions of the process. It also does not appear that there is any suggestion in this reference that air could be supplied from a common source to a plurality of compressors. Accordingly, this reference is subject to the same shortcomings as Fanning, et al. The remaining references do not appear to be directed to LNG processes or to show or suggest Applicants' claimed invention, therefore, no further discussion of these references is considered necessary.

In view of the foregoing amendments, it is respectfully submitted that Applicants' claims, as amended, have not been shown or suggested by Fanning, et al or Bauer, taken alone or in combination.


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Applicants' new claims 21 and 22 specifically require that the air cooler supplies air to a plurality of light hydrocarbon gas-fired turbines.

Accordingly it is respectfully requested that all rejections of Applicant's claims under 35 U.S.C. 102(b) and 103(a) be withdrawn.

In view of the foregoing amendments and comments, it is considered that Applicants' claims are now in condition for allowance and such is respectfully solicited.

Respectfully submitted,


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